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10/599,867	10/12/2006	David A. Fish	T4957-B005	5856

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EXAMINER	
BOYD, JONATHAN A	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,867	FISH ET AL.	
	Examiner	Art Unit	
	JONATHAN BOYD	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed October 21st 2009 have been fully considered but they are not persuasive. The Examiner respectfully disagrees with the Applicant's assertion that Cok does not disclose where "the first EL material is of a higher lifetime than the second EL material; and the second EL material has a better color point and/or better color rendition properties than the first EL material". Cok teaches for at least one basic RGB colors: a subpixel with superior color rendition (*See; Column 3, lines 22-24 for R,G,B*) and an extra subpixel with higher lifetime (*See; Column 3, lines 43-55 for cyan / yellow / magenta where the lifetime of a pixel being inversely dependant upon its driving current, so the higher the efficiency of a pixel the lower the necessary driving current and thus the higher its lifetime*). Thus naturally if the one subpixel has superior lifetime or color rendition to another subpixel, then naturally the EL material has a higher lifetime or color rendition than the other subpixel's EL material.

Further the Examiner respectfully disagrees with applicant's assertion that in claim 10 Cok must suggest pairing of pixels of a given color. Parameters within parentheses within the claim are held only as "labels" for the sub pixels, thus the use of (Rl, Gl, Bl) and (Rc, Gc, Bc) do not require that all of the subpixels be of the RGB color scheme. Aside from that, Cok does teach the possibility of using subpixels all in the same RGB gamut (*See; Column 3, lines 43-55 where additional subpixels have a color that is within an existing RGB gamut*).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cok et al (6,570,584) (herein "Cok").

In regards to claim 1, Cok teaches a color electroluminescent display device comprising an array of pixels (*See; Column 3, lines 10-28 for a color OLED display*); wherein: each pixel comprises sub-pixels of two or more main colors (*See; Fig. 5-7 for RGB*); for at least one of the main colors, the pixels comprise first sub-pixels of the main color comprising a first EL material (*R, G, B*) and second sub-pixels of the main color comprising a second EL material (*See; Fig. 5, 6 for C, Y, M*); the first EL material is of a higher lifetime than the second EL material; and the second EL material has a better color point and/or better color rendition properties than the first EL material (*See; Column 3, lines 22-24 for R,G,B* with superior color rendition and *See; Column 3, lines 43-55 for cyan / yellow / magenta where the lifetime of a pixel being inversely dependant upon its driving current, so the higher the efficiency of a pixel the lower the necessary driving current and thus the higher its lifetime*)

In regards to claim 2, Cok teaches wherein each pixel comprises a said first sub-pixel of the main color comprising a first EL material and a said second sub-pixel (of the

main color comprising a second EL material (*See; Fig. 4-7*).

In regards to claim 3, Cok teaches further comprising circuitry arranged to drive the display device such that when a color to be displayed by the pixel can be provided with a sufficient color contribution of the main color of the first and second sub-pixels by driving the first sub-pixel without driving the second sub-pixel, then the first sub-pixel is driven but not the second sub-pixel; and further arranged such that when the color or to be displayed cannot be provided with a sufficient color contribution of the main color of the first and second sub-pixels by driving the first sub-pixel without driving the second sub-pixel then the second sub-pixel is driven (*See; Column 3, lines 43-55 where the relative power of the various sub pixels may be varied*).

In regards to claim 4, Cok inherently teaches wherein the driving circuitry is arranged such that, when the color to be displayed cannot be provided with a sufficient color contribution of the main color of the first and second sub-pixels by driving the first sub-pixel without driving the second sub-pixel, then the second sub-pixel is driven in addition to driving the first sub-pixel (*See; Column 3, lines 43-55 where the relative power of the various sub pixels may be varied to obtain a given color*).

In regards to claim 5, Cok inherently teaches wherein the driving circuitry is arranged such that, when the color to be displayed cannot be provided with a sufficient color contribution of the main color of the first and second sub-pixels by driving the first

sub-pixel without driving the second sub-pixel, then the second sub-pixel is driven instead of driving the first sub-pixel (*See; Column 3, lines 43-55 where the relative power of the various sub pixels may be varied to obtain a given color*).

In regards to claim 6, Cok teaches wherein, for each of the main colors, the pixels comprise first sub-pixels of the main color comprising a first EL material and second sub-pixels of the main color comprising a second EL material; the first EL material is of a higher lifetime than the second EL material; and the second EL material has a better color point and/or better color rendition properties than the first EL material (*See; Column 2, lines 50-53 and Column 3, lines 43-55 for higher lifetime and better color rendition for each material*).

In regards to claim 7, Cok teaches wherein, for only the main color blue, the pixels comprise first blue sub-pixels comprising a first EL material and second blue sub-pixels comprising a second EL material; the first EL material is of a higher lifetime than the second EL material; and the second EL material has a better color point and/or better color rendition properties than the first EL material (*See; Column 2, lines 50-53 and Column 3, lines 43-55 and Fig. 4-7 where the pixels can be arbitrarily selected so that they all, or not, contain an extra long lifetime sub pixel)*.

In regards to claim 8, Cok teaches wherein some of the pixels comprise a said first blue sub-pixel and not a said second blue sub-pixel; and the remaining pixels

comprise a said second blue sub-pixel and not a said first blue sub-pixel (*See; Column 2, lines 50-53 and Column 3, lines 43-55 and Fig. 4-7 where the pixels can be arbitrarily selected so that they all, or not, contain an extra long lifetime sub pixel).*

In regards to claim 9, Cok teaches wherein the main colors are red, green and blue (*See; Fig. 4-7*).

In regards to claim 10, Cok teaches a method of driving a color electroluminescent, EL, display device (*See; Column 3, lines 10-28 for a color OLED display*), comprising: determining whether a sufficient color contribution to a color hue to be displayed can be provided by a first sub-pixel of a pair of color sub-pixels of a given color, wherein the first sub-pixel of the pair comprises a first EL material (*See; Fig. 5-7 for RGB*) and the second sub-pixel of the pair comprises a second EL material (*See; Fig. 5, 6 for C, Y, M*), the first EL material being of a higher lifetime than the second EL material, and the second EL material having better color points and/or better color rendition properties than the first EL material (*See; Column 2, lines 50-53 and Column 3, lines 43-55 for higher lifetime and better color rendition*); if a sufficient color contribution can be provided, driving the first sub-pixel but not the second sub-pixel; and if a sufficient color contribution cannot be provided, driving the second sub-pixel (*See; Column 3, lines 43-55 where the relative power of the various sub pixels may be varied*).

In regards to claim 11, Cok teaches wherein, if a sufficient color cannot be provided, the step of driving the second sub-pixel is performed in addition to driving the first sub-pixel such that both the first and second sub-pixel make a color contribution to the color hue to be displayed (*See; Column 3, lines 43-55 where the relative power of the various sub pixels may be varied to obtain a given color*).

In regards to claim 12, Cok teaches wherein, if a sufficient color cannot be provided, the step of driving the second sub-pixel is performed instead of driving the first sub-pixel such that the second sub-pixel makes a color contribution to the color hue to be displayed but the first sub-pixel does not make a contribution to the color hue to be displayed (*See; Column 3, lines 43-55 where the relative power of the various sub pixels may be varied to obtain a given color*).

In regards to claim 13, Cok teaches wherein the color of any pixel of the second sub-pixels is the same color as a pixel in the first sub-pixels (*See; Column 3, lines 43-55 where additional subpixels have a color that is within an existing RGB gamut*).

In regards to claim 14, Cok teaches a driver for a color electroluminescent (EL) display device (*See; Column 3, lines 10-28 for a color OLED display*), comprising: a means for determining whether a sufficient color contribution to a color hue to be displayed can be provided by a first sub-pixel of a pair of color sub-pixels of a given color (*See; Colum 4, line 66 to Column 5, line 5, where when increased color gamut is*

needed, the system will incorporate additional sub-pixels, thus a means is inherently present to determine when an increased color gamut is needed), wherein the first sub-pixel of the pair comprises a first EL material (R,G,B) and the second sub-pixel of the pair comprises a second EL material (*See; Fig. 5, 6 for C, Y, M*), the first EL material being of a higher lifetime than the second EL material, and the second EL material having better color points and/or better color rendition properties than the first EL material (*See; Column 3, lines 22-24 for R,G,B* with superior color rendition and *See; Column 3, lines 43-55 for cyan / yellow / magenta where the lifetime of a pixel being inversely dependant upon its driving current, so the higher the efficiency of a pixel the lower the necessary driving current and thus the higher its lifetime*); a means for driving the first sub-pixel but not the second sub-pixel when a sufficient color contribution can be provided by the first sub-pixel of a pair of color sub-pixels of a given color, and a means for driving the second sub-pixel when a sufficient color contribution cannot be provided (*See; Colum 4, line 66 to Column 5, line 5, where when increased color gamut is needed, the system will incorporate additional sub-pixels as needed).*

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN BOYD whose telephone number is (571)270-7503. The examiner can normally be reached on Mon - Fri 6:00 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. B./

Examiner, Art Unit 2629

/Amr Awad/
Supervisory Patent Examiner, Art Unit 2629